

AMENDMENTS TO THE CLAIMS

1 – 3. (Cancelled)

4. (Currently Amended) The ~~heat exchanger~~method of ~~Claim 1~~claim 10, wherein the thickness of the adsorbent ~~layer supported~~coating on the surfaces of the fins ~~set (57)~~ is not less than 50 μm and not more than 500 μm .

5 – 7. (Cancelled)

8. (Currently Amended) The ~~heat exchanger of claim 1~~method of claim 10, wherein said adsorbents comprise at least one of zeolite, silica gel, activated carbon, organic polymeric material having a hydrophilic or water adsorptive functional group, ion exchange resin material having a carboxyl or sulfonic acid group, functional polymer material, sepiolite, imogolite, allophane, kaolinite.

9. (Cancelled)

10. (New) A method of making a heat exchanger, the method comprising:
surrounding a fin set that includes a plurality of fins arranged parallel to each-other with an interval therebetween with a metallic framework such that the metallic framework is arranged to surround end faces of the fin set in an arrangement direction of the fins and end faces of the fins in the lengthwise direction of the fins;

penetrating the fin set with a serpentine heat transfer tube such that said tube penetrates the fin set in an arrangement direction of the fins and has u-shaped parts protruding out of the metallic framework;

coating the surfaces of the framework, fin set, and heat transfer tube with adsorbents that adsorb moisture from the air and desorb moisture into the air; and

controlling air flow inside the heat exchanger such that air velocity is between 0.5 and 1.5 meters per second, inclusive.

11. (New) The method of claim 10, where coating includes immersing a heat exchanger assembly including the framework, fin set, and heat transfer tube into a slurry mixed with adsorbent.

12. (New) The method of claim 10, where coating includes determining a coating thickness of said adsorbents such that the coating thickness is determined based on a number of fans used to move air through the exchanger, the efficiency of said fans, and the volume of said fans.

13. (New) The method of claim 10, further comprising connecting the heat transfer tube to a refrigerant pipe with a connector tube, where said connector tube is also coated with said adsorbents.